ImageQuest

L50A(L50C)

Multiscanning Color Monitor

TECHNICAL SERVICE MANUAL



HYUNDAI

http://hyundaiQ.com

Safety Precaution

WARNING

Service should not be attempted by anyone unfamiliar with the necessary precautions on this monitor.
The followings are the necessary precautions to be observed before servicing.

1. When managing this monitor , cover with shield plate to avoid to scrach on LCD surface.
2. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as nonmetallic control knobs, insulating covers, shields, isolation resistor capacitor network etc.
3. Before returning the monitor to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as signal connectors, terminals, screw heads, metal overlays, control shafts etc, to be sure the monitor is safe to operate without danger of electrical shock.

General Information

1. Description

This 15" LCD color display monitor is operated in R, G, B drive mode input.

2. Operating instructions

2-1. Front

Power Switch , Menu, Select, Down, Up, DPMS (Power) LED

2-2. Rear

Input connector (AC & Signal Cable)

2-3. OSD Controls

H/V Position, Clock Phase, Brightness, Contrast, Recall,Color Control, Language, Auto Adjust, Miscellaneous

3. Electrical Characteristic

3-1. Power Supply

AC/DC - Input Voltage : 90V~264V
Input Current : 1.0 A Max
Input Ferquency : 50 ~ 60Hz
- Output Voltage 12V/5V
Output Vurrent 2A/2A

3-2. Video Input Signal

Level : 0.7 Vp-p analog signal(at 75 ohm termination to ground)
Polarity : Positive

3-3. Horizontal Synchronization Signal

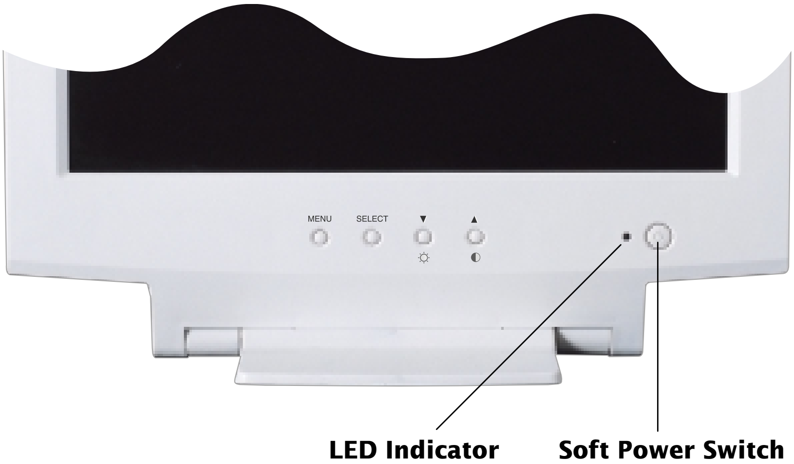
Level : TTL High : 2.4V min
Low : 0.4V max
Polarity : - or +
Frequency : 31kHz ~ 60kHz

3-4. Vertical Synchronization Signal

Level : TTL High : 2.4V min
Low : 0.4V max
Polarity : - or +
Frequency : 56Hz ~ 75Hz

Control Description

Front View



Support Modes

NO	Resolution	H Frequency (kHz)	V Frequency (Hz)	H Polarity	V Polarity	V Polarity	Refresh rate
1	720 x 400	31.5	70.0	0	1	28.322	70.087
2	640 x 480	31.5	59.9	0	0	25.175	59.940
3	640 x 480	37.9	72.8	0	0	31.500	72.809
4	800 x 600	37.9	60.3	1	1	40.000	60.317
5	800 x 600	46.9	75.0	1	1	49.500	75.000
6	1024 x 768	48.4	60.0	0	0	65.000	60.004
7	1024 x 768	56.5	70.1	0	0	75.000	70.069
8	1024 x 768	60.0	75.0	1	1	78.750	75.029

Video Input Signal

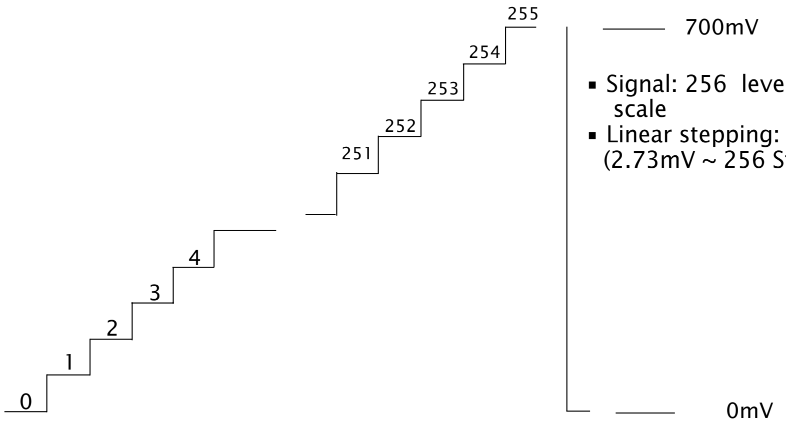
Recommended signal are shown below

■ **Video Signal**

Video level : 0 to 700mV
Polarity : positive
Video Input : RGB separated
Analog level
Sync input : H-Sync(TTL level)
V-Sync (TTL level)

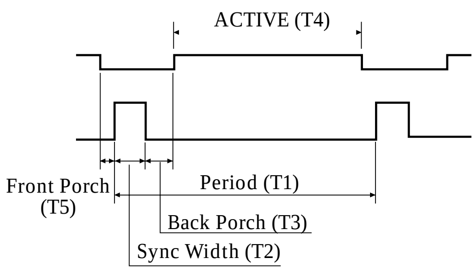
■ **Waveform**

Video input(R.G.B)

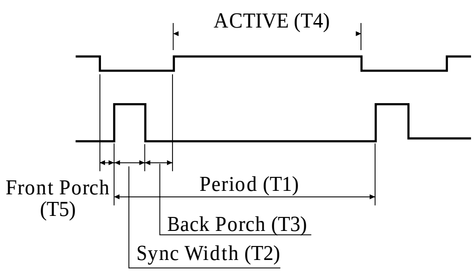


■ Signal: 256 level gray scale
■ Linear stepping: (2.73mV ~ 256 Steps)

• **H-Sync**



• **V-Sync**



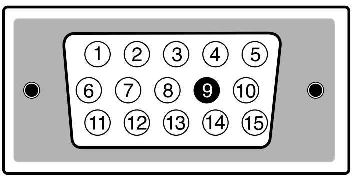
Video Input Terminal

A 15 Pin D-sub connector is used as the input signal connector
Pin and input signals are shown in the table below.

Pin Description

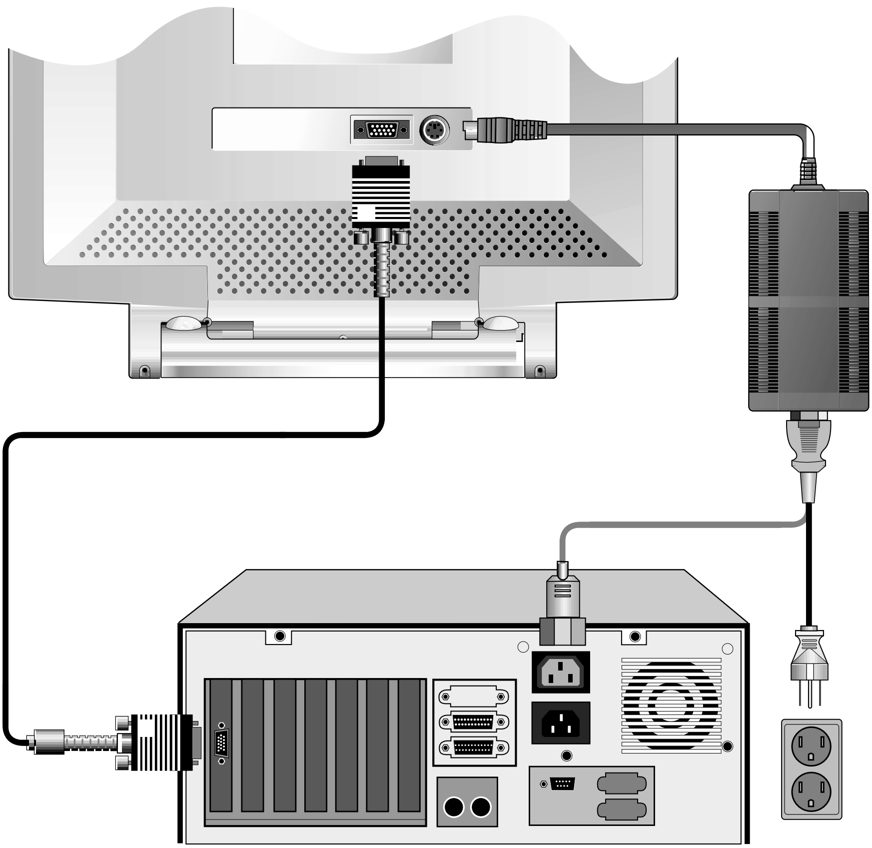
PIN NO. \ SIGNAL	SEPARATE SYNC/ DDC 1/2B
1	RED
2	GREEN
3	BLUE
4	GND
5	RETURN
6	RED GROUND
7	GREEN GROUND
8	BLUE GROUND
9	N.C
10	LOGIC GROUND
11	GROUND
12	SDA
13	H-SYNC(TTL)
14	V-SYNC(VCLK)
15	SCL

D-Sub miniature connector



Connecting with External Equipment

Cautions
Be sure to turn off the power of your computer before connecting the monitor.



Theory of Operation

1. AC/DC Adapter

Input voltage : 90 ~ 264 Vac, 50/60 Hz
Input current : Max 1A (Vin : 90Vac , 50Hz)
Inrush current : 15A peak (At 115Vac Max . Load)
30A peak (At 230Vac Max. Load)

2. DC/AC INVERTER

Input voltage : DC 12V
Input current : 2.0A(Max)
Frequency(switching) : 40 - 80 KHz
On/off control voltage : 5.0V

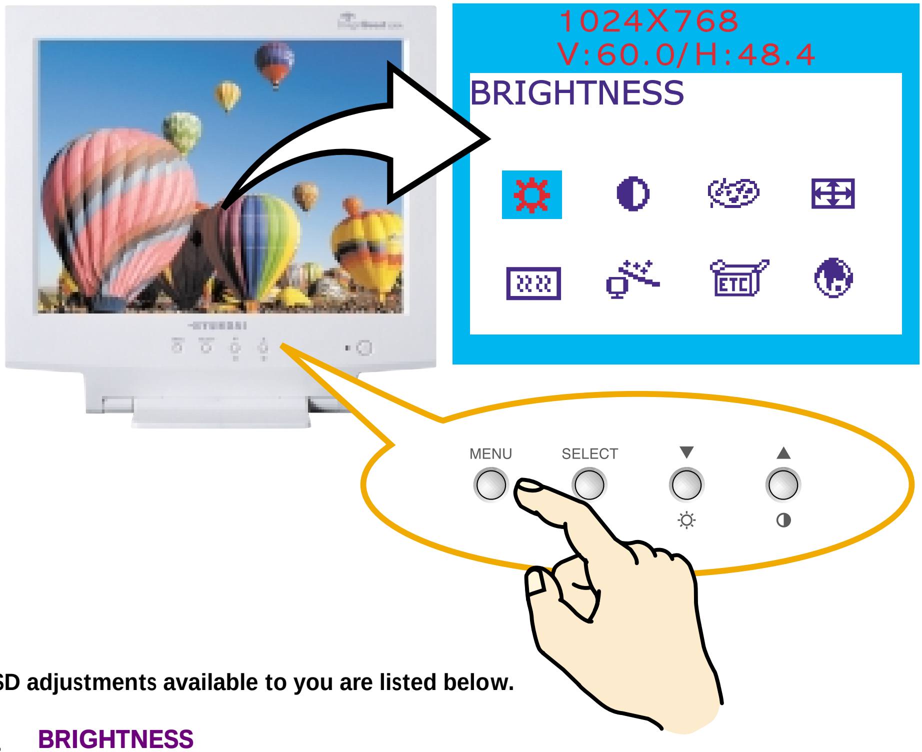
3. DPMS MODE

Reference to DPMS files

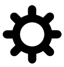
Mode	LED	LED Indicator
Normal	Green	40W
Suspend	Orange	10W
off	Orange	5W
Unplugged	Not illuminated	0W

On Screen Controls & LED Indicator

The menu for screen setting adjustment is located in the OSD and can be viewed in one of five languages OSD feature andmain funcrions are as follows:



The OSD adjustments available to you are listed below.



BRIGHTNESS
Adjust the brightness of the screen.

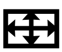


CONTRAST
Adjust the contrast of the screen.



COLOR CONTROL
Color temperature affects the tint of the image. With lower color temperatures the image turns reddish and with higher temperatures bluish.

There are three color settings available: Mode 1(a warm white), Mode 2(a cool white) or USER. With the USER setting you can set individual values for red, green and blue.



H/V POSITION

H-POSITION
Adjusts the horizontal position of the entire screen image.

V-POSITION
Adjusts the vertical position of the entire screen image.

CLOCK PHASE

PHASE

Adjust the noise of the screen image.

CLOCK

Adjust the horizontal size of the entire screen image.

AUTO ADJUST

You can adjust the shape of screen automatically at the full screen pattern.

MISCELLANEOUS

RECALL

Recall the saved color data.

OSD TIMER

You can set the displayed time of OSD Menu window on the screen by using this adjustment.

OSD POSITION

Adjust the OSD menu's horizontal or vertical position on the screen.

LANGUAGE

You can select the language in which adjustment menus are displayed.
The following languages are available : English, French, German, Italian, Spanish, Swedish, Finnish, Danish, P

Getting Fine Picture

Step 1. At first Display, a full screen, such as, Window's background or "H" character should be achieved by using Editor (ex: Notepad. exe)

Step 2. Adjust the screen to the center of the Display(LCD), by using the top and bottom display controls. (i.e.Using V-Position Adjust menu)



Step 3. Adjust the screen to the center of the Display(LCD), by using the right and left display controls. (i.e.Using Clock and H-Position adjust menu)



Step 4. Adjust the Clock-phase until the "H" Character displays clear.



Step 5. Using the Contrast. Brightness, and Color Control menu, set the color to your preference.

Step 6. When you finish the adjustment, you can save your settings by pressing on the menu until the OSD screen has disappeared.

Factory Setting & EEPROM Initialization Method

Factory Setting Method

- Connect the signal cable and power cable to the LCD monitor.
- Press Power switch with pressed MENU key.(Menu key + Power key).
- Then, a User can change the factory setting value in OSD menu.
- Save changed value and Turn off the power s/w.
- Turn on the power, adjust the screen.

Specification

LCD Module	SIZE	15" Viewable diagonal
	Dot Pitch	0.297mm
	Brightness	180 cd/m^2 (MIN), 250 cd/m^2 (TYP)
	Response Time	20m- sec (Typ)
Input	Signal	R.G.B Analog
	Connector	15 pin D-SUB Connector
SYNC	H-Freq	31.0kHz ~ 60.0kHz
	V-Freq	56.0Hz ~ 75Hz
Display	Area	304(H)X228(V)mm
	Color	16.2M Colors
Resolution		1024 X 768 @ 75Hz
Video Bandwidth		80MHz
User Control & OSD Control		Contrast,Brightness,H-V Position, Clock Phase, Color Control, Language, Auto Adjust, Miscellaneous
Power Management		VESA DPMS Standard
Plug & Play		VESA DDC 1/2B
Safety & Regulation	EMC	FCC CLASS B , CE , VCCI
	Safety	cULus, CE, TUV-GS, SEMKO
	Ergonomi	TCO
Temperature	Operating	5 to 35 ˚C
	Storage	- 5 to 45 ˚C
Humidity	Operating	30 to 80%(Non-condensing)
	Storage	5 to 90%(Non-condensing)
Weight	unpacked	3.1Kg
	packed	4.4Kg
Dimension(WXHXD mm)		367X353X188.3mm

* Specification is subject to change without notice for performance improvement.

Critical Parts Specification

1. LCD Module

HT-15X13(LTM150XH-L01)is a a-si TFT active matrix color liquid crystal comprising amorphous silicon TFT attached to each signal electrode, a driving circuit and a backlight. HT-15X13(LTM150XH-L01) has a built-in backlight display area contains 1024X768 pixels and can display full color (16.2M colors)

Display area	304(H)X228(V)mm
Drive system	a-si TFT
Display color	16.2M Colors
Number of Pixel	1024X768
Pixel arrangement	RGB vertical strip
Pixel pitch	0.297(H)X0.297(V)mm
Weight	300:1
Viewing angle	
Horizontal:	80 degree(3' clock, 9' clock)/45(12 ' clock) 80 (6' clock)
Vertical:	40 degree(12' clock) ,55 degree(6' clock)/65(3 ' clock, 9 ' clock)
Response time	20ms(Typr)
Luminance	250cd/m^2(Typ)
Signal system	Digital RGB signals, Sync signals(H, V-Sync), Dot clock(DCLK) , DE(Data Enable)
Supply voltage	3.3V
Backlight	Edge light type: Four colt cathode fluorescent lamps With in- verter
Power consumption	1.5W(TYP) without B/L

2) INTERFACE CONNEXTION

2-1) Electrical Interface

CN1 Interface connector : DF14H-20P-1.25H(HIROSE) or equivalent
User side connector : DF14-20S-1.25C(HIROSE)or equivalent

Pin No	Symbol	Pin No	Remark
1	VDD1	Power Supply : +3.3V	
2	VDD2	Power Supply : +3.3V	
3	VSS	Ground	
4	VSS	Ground	
5	RIN0-	LVDS Negative data signal (-)	Tx pin #48
6	RIN0+	LVDS Negative data signal (+)	Tx pin #47
7	VSS	Ground	
8	RIN0-	LVDS Negative data signal (-)	Tx pin #46
9	RIN0+	LVDS Negative data signal (+)	Tx pin #45
10	VSS	Ground	
11	RIN2-	LVDS Negative data signal (-)	Tx pin #42
12	RIN2+	LVDS Negative data signal (+)	Tx pin #41
13	VSS	Ground	
14	RCLKIN-	LVDS Negative data signal (-)	Tx pin #40
15	RCLKIN+	LVDS Negative data signal (+)	Tx pin #39
16	VSS	Ground	
17	RIN3-	LVDS Negative data signal (-)	Tx pin #38
18	RIN3+	LVDS Negative data signal (+)	Tx pin #37
19	VSS	Ground	
20	NC	Reserved	

2-2) LVDS Infcrface
LVDS Transmitter : THC63LVDM83A or equivalent.

Input signal	Transmitter Pin No	Transmitter Pin No	Interface System (Tx)	Interface TFT-LCD (Rx)	DF14H-20P-1.25H Pin No	Remark
R0	51					
R1	52					
R2	54	48	OUT 0-	IN0-	5	
R3	55	47	OUT +	IN0+	6	
R4	56					
R5	3					
G0	4					
G1	6					
G2	7					
G3	11	46	OUT1+	IN1-	8	
G4	12	45	OUT1+	IN1+	9	
G5	14					
B0	15					
B1	19					
B2	20					
B3	22					
B4	23	42	OUT2-	IN2-	11	
B5	24	41	OUT2+	IN2+	12	
HSYNC	27					
VSYNC	28					
DE	30					
MCLK	31	40	CLKOUT-	CLKIN-	14	
		39	CLKOUT+	CLKIN+	15	
R6	50					
R7	2					
G6	8	38	OUT+	IN3-	17	
G7	10	37	OUT-	IN3+	18	
B6	16					
B7	18					
RSVD	25					

gmZAN1

Features

The gmZAN1 device utilizes Genesisí patented third-generation Advanced Image Magnification technology as well as a proven integrated ADC/PLL to provide excellent image quality within a cost-effective SVGA / XGA LCD monitor solution.

As a pin-compatible replacement for the gmB120, the gmZAN1 incorporates all of the gmB120 features plus many enhanced features; including 10-bit gamma correction, Adaptive Contrast Enhancement (ACE) filtering, and an enhanced OSD.

Features

- Fully integrated 135MHz 8-bit triple-ADC, PLL, and pre-amplifier
- gmZ2 scaling algorithm featuring new *Adaptive Contrast Enhancement (ACE)*
- On-chip programmable OSD engine
- Integrated PLLs
- 10-bit programmable gamma correction
- Host interface with 1 or 4 data bits
- Pin-compatible with gmB120

- **Integrated Analog Front End**
  - Integrated 8-bit triple ADC
  - Up to 135MHz sampling rates
  - No additional components needed
  - All color depths up to 24-bits/pixel are supported

- **High-Quality Advanced Scaling**
  - Fully programmable zoom
  - Independent horizontal / vertical zoom
  - Enhanced and adaptive scaling algorithm for optimal image quality
  - Recovery Mode / Native Mode

- **Input Format**
  - Analog RGB up to XGA 85Hz

- **Output Format**
  - Support for 8 or 6-bit panels (with high quality dithering)
  - One or two pixel output format

- **Built In High-Speed Clock Generator**
  - Fully programmable timing parameters
  - On-chip PLLs generate clocks for the on-chip ADC and pixel clock from a single reference oscillator

- **Auto-Configuration / Auto-Detection**
  - Phase and image positioning
  - Input format detection

- **Operating Modes**
  - Bypass mode with no filtering
  - Multiple zoom modes:
    with filtering
    with adaptive (ACE) filtering

- **Integrated On-Screen Display**
  - On-chip character RAM and ROM for better customization
  - External OSD supported for greater flexibility
  - Many other font capabilities including: blinking, overlay and transparency

Package

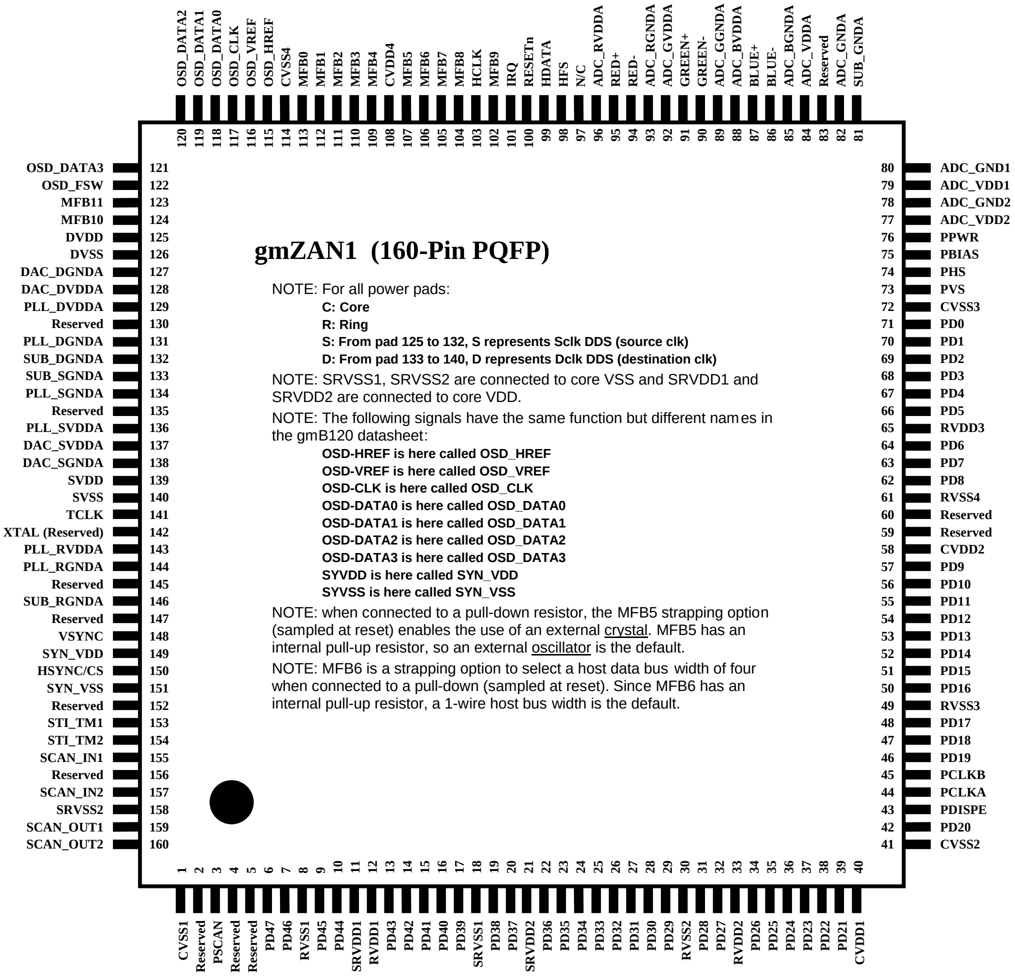
- 160-pin PQFP

Applications

- Multi-synchronous LCD monitors
- Other fixed-resolution pixelated display devices

Pin Out Diagram

Figure 1. gmZAN1 Pin Diagram



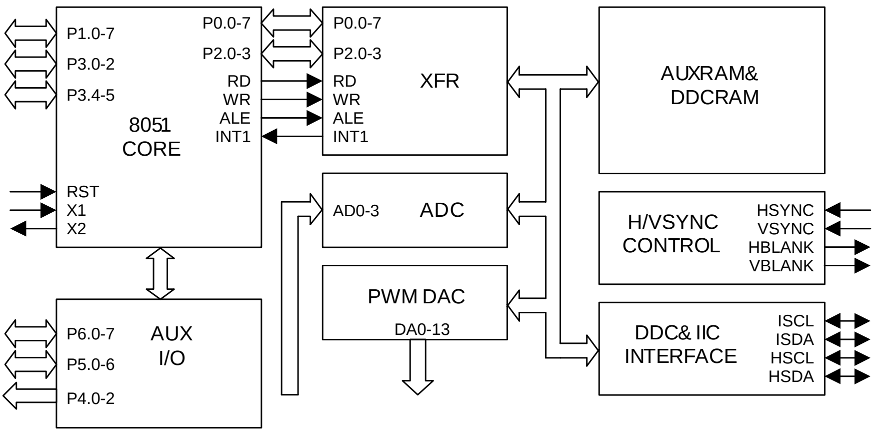
MTV312M64

- 8051 core, 12MHz operating frequency with double CPU clock option
- 0.35uM process; 5V/3.3V power supply and I/O; 3.3V core operating
- 1024-byte RAM; 64K-byte program Flash-ROM support In System Programming (ISP)
- Maximum 14 channels of PWM DAC
- Maximum 31 I/O pins
- SYNC processor for composite separation/insertion, H/V polarity/frequency check and polarity adjustment
- Built-in low power reset circuit
- Built-in self-test pattern generator with four free-running timings
- Compliant with VESA DDC1/2B/2Bi/2B+ standard
- Dual slave IIC addresses; H/W auto transfer DDC1/DDC2x data
- Single master IIC interface for internal device communication
- Maximum 4-channel 6-bit ADC
- Watchdog timer with programmable interval
- Flash-ROM program code protection selection
- 40-pin DIP, 42-pin SDIP or 44-pin PLCC package

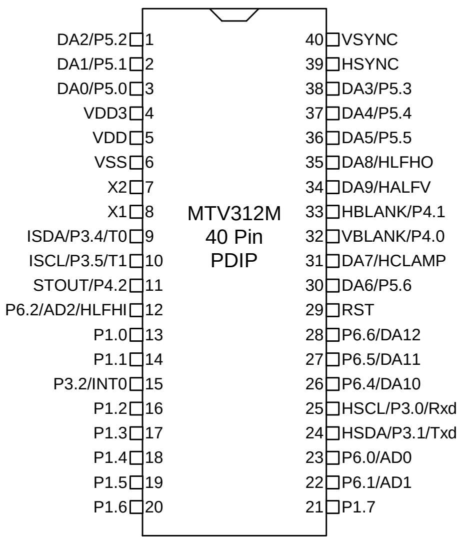
GENERAL DESCRIPTIONS

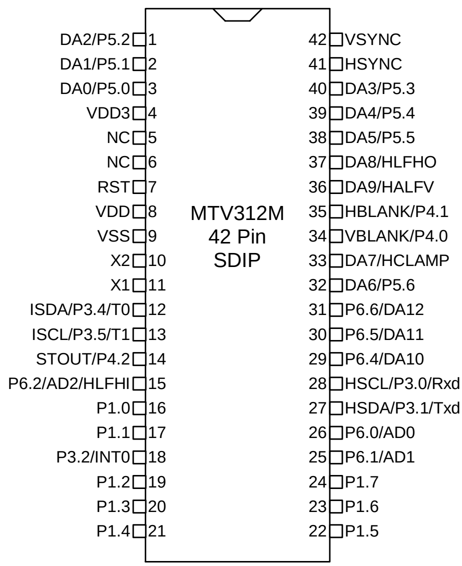
The MTV312M micro-controller is an 8051 CPU core embedded device especially tailored for CRT/LCD Monitor applications. It includes an 8051 CPU core, 1024-byte SRAM, 14 built-in PWM DACs, VESA DDC interface, 4-channel A/D converter, and a 64K-byte internal program Flash-ROM.

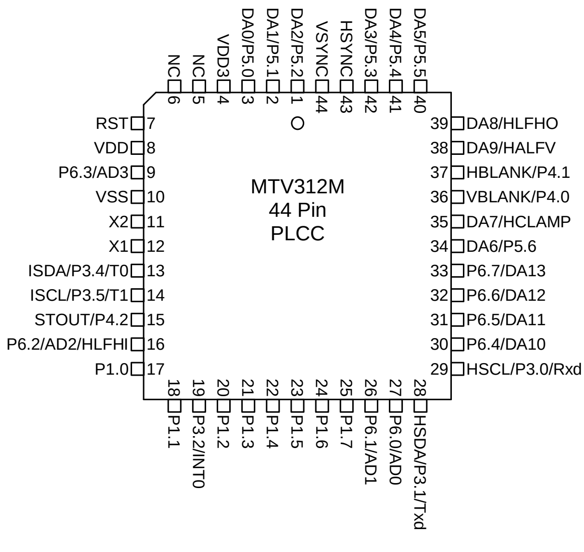
BLOCK DIAGRAM



PIN CONNECTION

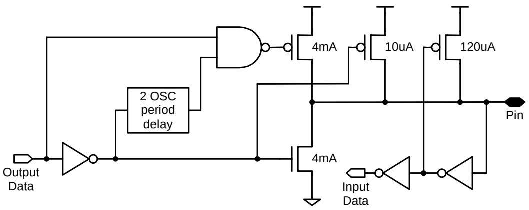




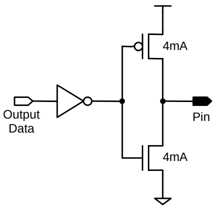


PIN CONFIGURATION

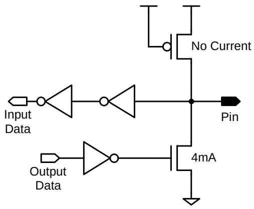
A ìCMOS output pinî means it can sink and drive at least 4mA current. It is not recommended to use such pin as input function.
A ìopen drain pinî means it can sink at least 4mA current but only drive 10~20uA to VDD. It can be used as input or output function and needs an external pull up resistor.
A ì8051 standard pinî is a pseudo open drain pin. It can sink at least 4mA current when output is at low level, and drives at least 4mA current for 160nS when output transits from low to high, then keeps driving at 100uA to maintain the pin at high level. It can be used as input or output function. It needs an external pull up resistor when driving heavy load device.



8051 Standard Pin



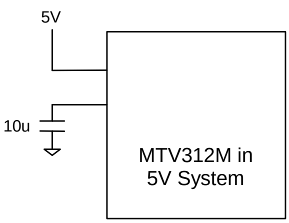
CMOS Output Pin

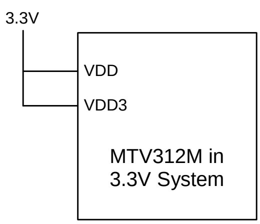


Open Drain Pin

POWER CONFIGURATION

The MTV312M can work on 5V or 3.3V power supply system.
In 5V power system, the VDD pin is connected to 5V power and the VDD3 needs an external capacitor, all output pins can swing from 0~5V, input pins can accept 0~5V input range. And ADC conversion range is 5V. However, X1 and X2 pins must be kept below 3.3V.
In 3.3V power system, the VDD and VDD3 are connected to 3.3V power, all output pins swing from 0~3.3V, HSYNC, VSYNC and open drain pin can accept 0~5V input range, other pins must be kept below 3.3V. And the ADC conversion range is 3.3V.





CS5828

GENERAL DESCRIPTION

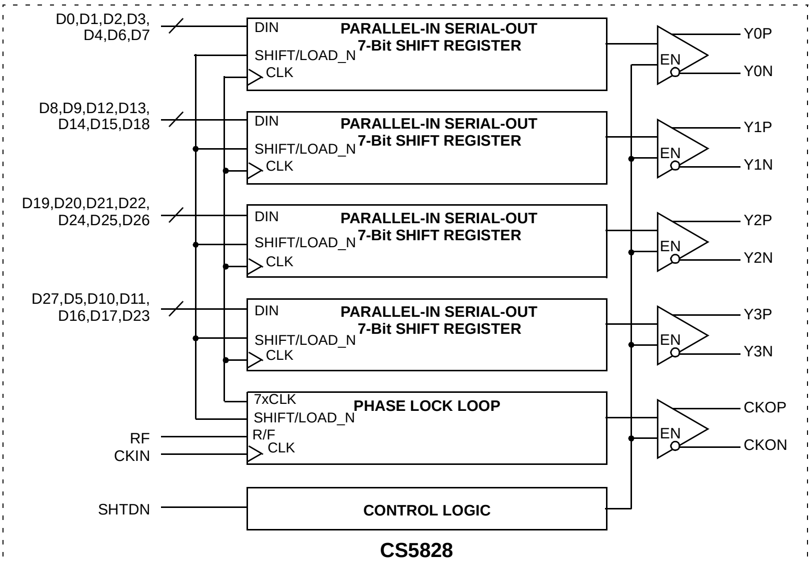
The CS5828 receives four sets of 7-bit data in CMOS logic level and converts them into four low-voltage differential signaling (LVDS) serial channels. The 7-bit input data is referenced to the CKIN signal. The RF pin selects either rising or falling edge trigger of CKIN. Parallel to serial conversion is performed by a 7X internal generated clock reference using on-chip PLL using CKIN. A copy of CKIN but phase-locked to the output serial streams, CLKOUT, is also converted to the fifth LVDS channel. The CS5828 offers a reliable communication media using LVDS signaling and provides low EMI dealing with wide, high-speed TTL interfaces.

This is especially attractive for interfaces between GUI controller and display systems such as LCD panels for SVGA/XGA/SXGA applications.

FEATURES

- Four 7-bit serial and one clock LVDS channels.
- Compatible with ANSI TIA/EIA-644 LVDS standard.
- Wide CKIN ranges from 31MHz to 85MHz.
- Fully integrated on-chip PLL that provides 7X CKIN serial shift clock.
- Pin selectable for rising or falling edge trigger.
- Support power-down mode.
- 5V/3.3V tolerant data input.
- Single 3.3V supply operation.
- CMOS low power consumption.
- Functional compatible with DS90C385.
- Available in 56-pin TSSOP package.

BLOCK DIAGRAM



PIN CONNECTION DIAGRAM

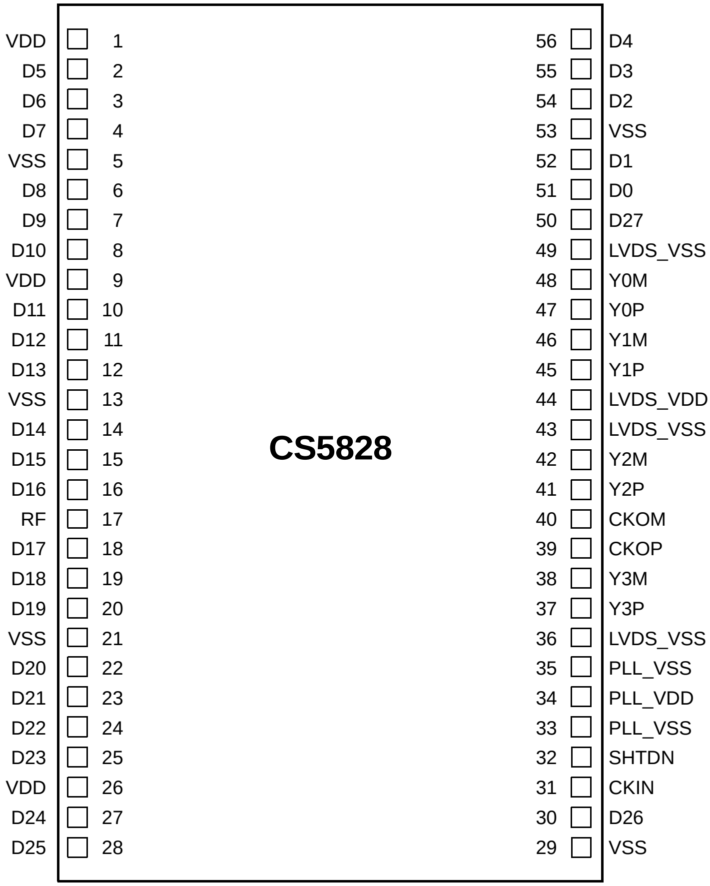
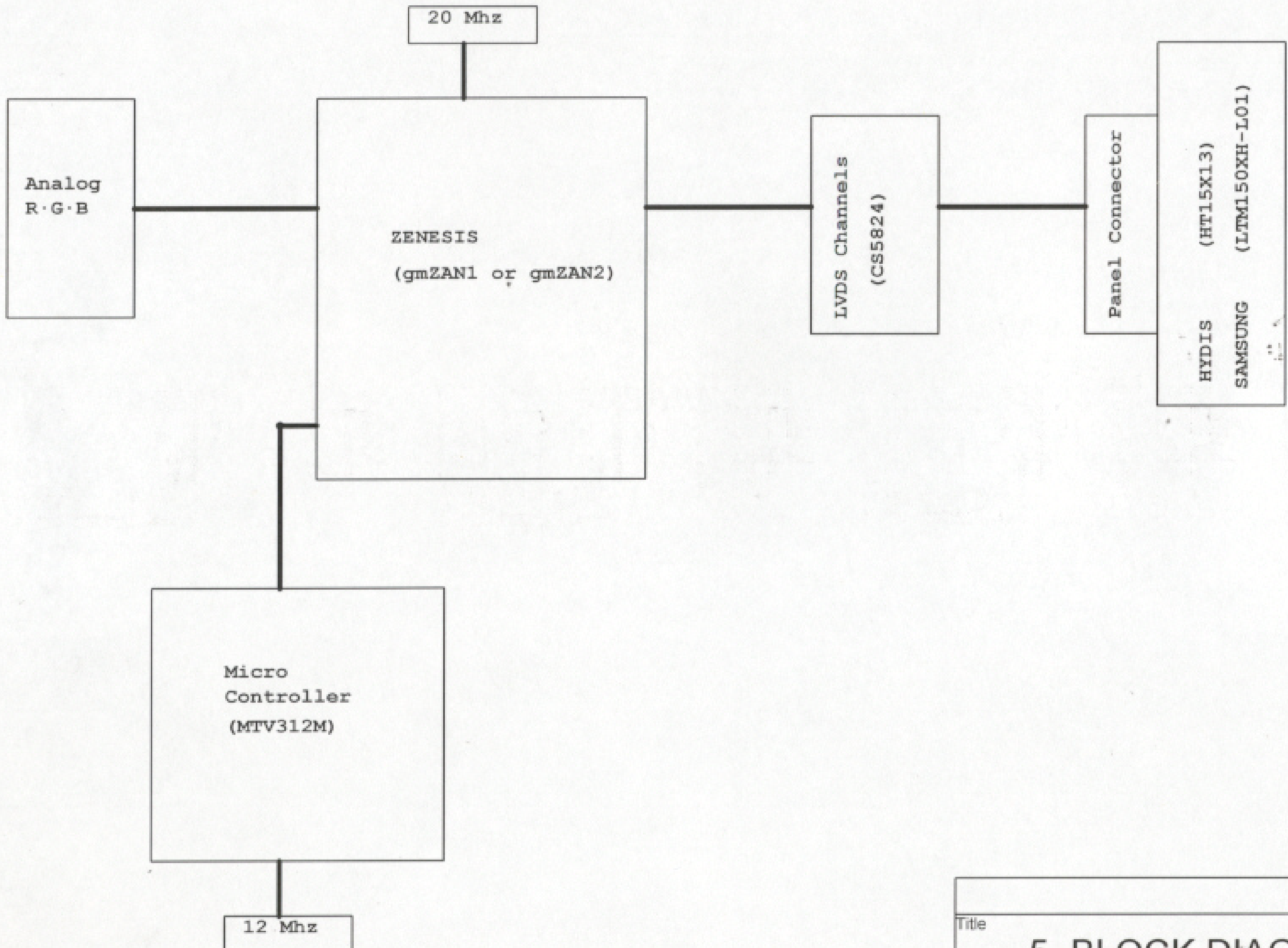


Figure-1 56-pin TSSOP

BLOCK DIAGRAM

MODEL NAME : L50C(S527B/L550B/L1510B)



Title: 5. BLOCK DIAGRAM		
Size: A	Document Number: <Doc>	Rev: E
Date: Thursday, November 29, 2001	Sheet 5 of 5	

MAIN BOARD

NUM.	LOCATION	PART NUMBER	DESCRIPTION	REMARK
1	C200	2012200005	CAP-AL-C,22UF 16V M 5052	
2	C201	2012200005	CAP-AL-C,22UF 16V M 5052	
3	C202	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
4	C203	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
5	C204	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
6	C205	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
7	C206	2012200005	CAP-AL-C,22UF 16V M 5052	
8	C207	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
9	C208	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
10	C209	2012200005	CAP-AL-C,22UF 16V M 5052	
11	C210	2012200005	CAP-AL-C,22UF 16V M 5052	
12	C211	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
13	C212	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
14	C213	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
15	C214	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
16	C215	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
17	C216	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
18	C217	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
19	C218	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
20	C219	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
21	C220	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
22	C221	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
23	C222	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
24	C223	2012200005	CAP-AL-C,22UF 16V M 5052	
25	C224	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
26	C225	2012200005	CAP-AL-C,22UF 16V M 5052	
27	C226	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
28	C227	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
29	C228	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
30	C229	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
31	C230	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1	
32	C231	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1	
33	C232	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1	
34	C233	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1	
35	C234	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1	
36	C235	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1	
37	C239	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
38	C240	E4001020808J	CAP,CHIP 50V 47PF J 1608	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	REMARK
39	C241	2125090017	CAP-C-C,5PF 50V J COG 160	
40	C242	2125090017	CAP-C-C,5PF 50V J COG 160	
41	C300	2011000006	CAP-AL-C,10UF 16V M 4052	
42	C301	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
43	C302	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
44	C303	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
45	C304	2011000006	CAP-AL-C,10UF 16V M 4052	
46	C305	2011000006	CAP-AL-C,10UF 16V M 4052	
47	C306	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
48	C307	CC7FCA1H180J	CAP-CC,18PF 50V J COG 160	
49	C308	CC7FCA1H180J	CAP-CC,18PF 50V J COG 160	
50	C309	201109000401	CAP-AL-C,1UF 50V M 4052	
51	C313	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
52	C314	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
53	C315	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
54	C316	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
55	C317	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
56	C318	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
57	C319	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
58	C400	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
59	C401	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
60	C402	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
61	C403	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
62	C404	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
63	C405	2012200005	CAP-AL-C,22UF 16V M 5052	
64	C406	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
65	C407	2012200005	CAP-AL-C,22UF 16V M 5052	
66	C408	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
67	C409	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
68	C410	2012200005	CAP-AL-C,22UF 16V M 5052	
69	C411	2012200005	CAP-AL-C,22UF 16V M 5052	
70	C412	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
71	C413	2012200005	CAP-AL-C,22UF 16V M 5052	
72	C414	2012200005	CAP-AL-C,22UF 16V M 5052	
73	C415	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
74	C416	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
75	C419	CC7FCA1H330J	CAP-CC,33PF 50V J 1608	
76	C420	CC7FCA1H330J	CAP-CC,33PF 50V J 1608	
77	C421	CC7FCA1H330J	CAP-CC,33PF 50V J 1608	
78	C422	CC7FCA1H330J	CAP-CC,33PF 50V J 1608	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	REMARK
79	C423	2011010014	CAP-AL-C,100UF 16V M 6357	
80	C424	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
81	C425	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1	
82	C426	2011010014	CAP-AL-C,100UF 16V M 6357	
83	CN200	3721101054	CONN-F,DSUB 15P 3R ST 7.5	
84	CN301	372010139001	CONN-M,SMAW200-08P	
85	CN302	372010138801	CONN-M,SMAW200-06P	
86	CN400	372110067501	CONN-F,MINI DIN ROUND 6P	
87	CN401	3720101674	CONN-M,DF14A-20P-1.25H 20	
88	D200	3101000376	DI-ZN,Z02W6.2V SMD	
89	D201	3101000376	DI-ZN,Z02W6.2V SMD	
90	D202	3101000376	DI-ZN,Z02W6.2V SMD	
91	D203	3101000376	DI-ZN,Z02W6.2V SMD	
92	D204	DTRLS4148	DIODE,CHIP S/W RLS4148	
93	D205	3100100038	DI-AR,KDS226 SMD	
94	D206	3100100038	DI-AR,KDS226 SMD	
95	D207	3100100038	DI-AR,KDS226 SMD	
96	D208	3101000376	DI-ZN,Z02W6.2V SMD	
97	D301	DTRLS4148	DIODE,CHIP S/W RLS4148	
98	R200	RK1JC0T0101J	RES-C,100 0.063W J 1608	
99	R201	RK1JC0T0101J	RES-C,100 0.063W J 1608	
100	R202	RK1JC0T0101J	RES-C,100 0.063W J 1608	
101	R203	RK1JC0T0101J	RES-C,100 0.063W J 1608	
102	R204	2607509010	RES-C,75 0.063W F 1608	
103	R205	2607509010	RES-C,75 0.063W F 1608	
104	R206	2607509010	RES-C,75 0.063W F 1608	
105	R207	RK1JC0T0101J	RES-C,100 0.063W J 1608	
106	R208	RK1JC0T0101J	RES-C,100 0.063W J 1608	
107	R209	RK1JC0T0220J	RES-C,22 0.063W J 1608	
108	R210	RK1JC0T0220J	RES-C,22 0.063W J 1608	
109	R212	RK1JC0T0473J	RES-C,47K 0.063W J 1608	
110	R213	RK1JC0T0473J	RES-C,47K 0.063W J 1608	
111	R214	RK1JC0T0101J	RES-C,100 0.063W J 1608	
112	R215	RK1JC0T0101J	RES-C,100 0.063W J 1608	
113	R216	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
114	R217	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
115	R218	RK1JC0T0000J	RES-C,0 0.063W J 1608	
116	R219	RK1JC0T0000J	RES-C,0 0.063W J 1608	
117	R220	RK1JC0T0000J	RES-C,0 0.063W J 1608	
118	R300	RK1JC0T0103J	RES-C,10K 0.063W J 1608	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	REMARK
119	R301	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
120	R302	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
121	R303	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
122	R304	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
123	R305	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
124	R306	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
125	R307	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
126	R308	RK1JC0T0472J	RES CHIP 4.7K 5% 1/16W	
127	R309	RK1JC0T0472J	RES CHIP 4.7K 5% 1/16W	
128	R310	RK1JC0T0472J	RES CHIP 4.7K 5% 1/16W	
129	R312	RK1JC0T0331J	RES CHIP 330 5% 1/16W	
130	R313	RK1JC0T0331J	RES CHIP 330 5% 1/16W	
131	R314	RK1JC0T0471J	RES-C,470 0.063W J 1608	
132	R315	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
133	R319	RK1JC0T0471J	RES-C,470 0.063W J 1608	
134	R321	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
135	R322	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
136	R323	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
137	R324	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
138	R334	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
139	R400	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
140	R401	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
141	R402	RK1JC0T0330J	RES-C,33 0.063W J 1608	
142	R403	RK1JC0T0330J	RES-C,33 0.063W J 1608	
143	R404	RK1JC0T0330J	RES-C,33 0.063W J 1608	
144	R405	RK1JC0T0330J	RES-C,33 0.063W J 1608	
145	R406	RK1JC0T0472J	RES CHIP 4.7K 5% 1/16W	
146	U200	3205001388	IC-U,GMZAN1 QFP SCALER CH	
147	U202	3203000745	IC-MEMO,24LC211/SN SOI	
148	U301	3203000879	IC-MEMO,S524C80D81-SCB0 S	
149	U303	3205001387	IC-U,MTV312M64 LCC MONITO	
150	U303	3721100621	CONN-F,PLL-44-PPS-T-M 44	
151	U400	3200001392	IC-LIN,RC1117-3.3 SOT	
152	U401	3200001392	IC-LIN,RC1117-3.3 SOT	
153	U402	3200001392	IC-LIN,RC1117-3.3 SOT	
154	U403	3202001510	IC-TTL,CS5824 TSOP2	
155	U404	3114000127	FET,SI4435DY SMD	
156	X200	3530200573	VIB-QUARTZ,SMD 20MHZ 18PF	
157	X300	3530200537	VIB-QUARTZ,SX-1 12MHZ SMD	

Miscellaneous

NUM.	LOCATION	PART NUMBER	DESCRIPTION	REMARK
1		3010700781	CONTROL B/D OSD L50C,CTRL	
2		3330500230	LCD,HT15X13	
3		3610400244	INVERTER,DC/AC WBT150 PCB	⚠
4		3725005212	CONN-A,LVDS CABLE L50C L5	
5		3725005213	CONN-A,INVERTER CBL L50C	
6		3758000200	CBL-PWR,MW WALL 1.8MT EUR	
7		3758500425	CBL-SGN,7PAI 1.5M 2C MW S	
8		5001000579	SCR-MC,BIN + MC 3*8	
9		5001000666	SCR-MC,BIN + MC 3*5	
10		5004000191	SCR-TT,BIN + MC 3*12	
11		5004000198	SCR-TT,WAP + MC 3X10	
12		5004000198	SCR-TT,WAP + MC 3X10	
13		5004000203	SCR-TT,BIN + MC 2X6	
14		5004000203	SCR-TT,BIN + MC 2X6	
15		5004000209	SCR-TT,BIN + MC 3*4	
16		6101218601	MAIN FRAME L50C	
17		6115023200	HINGE L,L50A	
18		6115023300	HINGE R,L50A	
19		6120051401	MAIN SHIELD,L50C	
20		6128010132	GASKET EMI,20X120 T=5	
21		6128010151	GASKET EMI(L TYPE,L=100)	
22		6201289000	COVER FRONT,L50A	
23		6201289200	STAND A,L50A	
24		6201289250	STAND A,L50A(D/G)	
25		6201289300	STAND B,L50A	
26		6201289350	STAND B,L50A(D/G)	
27		6201289400	BAR STAND,L50A	
28		6201289450	BAR STAND,L50A(D/G)	
29		6201291450	COVER F.ASY,L50A IQT(S)	
30		6201291550	STAND ASSY,L50A IQT(D/G)	
31		6201296400	STAND COVER B,L50A PS	
32		6201296450	STAND COVER B,L50A/IQT(D)	
33		6201299501	SILVER SPRAY,L50A	
34		6201300201	COVER REAR L50C IQT(D/G)	
35		6210107108	AL TAPE(60*40),W150	
36		6215234551	KNOB TACT,L50A(METAL COAT	
37		6215234651	KNOB POWER,L50A(METAL COA	
38		6215234700	CAP STAND L,L50A	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	REMARK
39		6215234750	CAP STAND L,L50A(D/G)	
40		6215234800	CAP STAND R,L50A	
41		6215234850	CAP STAND R,L50A(D/G)	
42		6220084000	LENS LED,L50A	
43		6223066800	HOLDER,HANDLE TOP	
44		6223066900	HOLDER,HANDLE BOTTOM	
45		6242027801	SHEET PROTECT TAPE,HLM150	
46		6243028300	BAG,PE(ST) CLEAR 14"/15"A	
47		6243037901	MANUAL PE BAG	
48		6253115200	CUSHION TOP,L50C	
49		6253115300	CUSHION BOTTOM,L50C	
50		6261042202	RUBBER STAND,L50A(D/G)	
51		6261042203	RUBBER STAND B,L50A CR BL	
52		6261042300	RUBBER FOOT A,L50A	
53		6301189300	BOX INNER	
54		6301189501	BOX OUTER,SW-3(B) L50A N-	
55		6309030000	PAD,PALLET CTN PBE/U 15"1	
56		6309037300	PAD,PALLET ANGLE	
57		6316313000	STICKER,CABINET TC095 ALL	
58		6316349201	LABEL,BOX STICKER TC095 A	
59		6316349239	LABEL SHIPPING,L50A OUT B	
60		6316349254	BOX STICKER TCO'95 ALL	
61		6316349255	LABEL,SILVER STICKER	
62		6320230214	CD MANUAL IQT(EXP) ALL	
63		304100103902	PCB-DOUBLE,L50C/HMO MAIN	
64		361020008702	PWR-LIN-SPPLY,CC92HM	
65		630118940002	BOX CTN,SW-3 L50A HEI	
66		631633290902	LABEL BACK,L50A EXP/SILVE	
67		632703520301	SHEET INSTALL GUIDE,IQT A	
68		B4204513263B	LABEL,B/CODE 64KHZ(DIC21)	
69		B4204666401	KIT LABEL,L50C/95 IQT/SIL	
70		B4210325204	PACKING ASSY,CD L50C IQT	
71		B4210325356	LCD MEC.ASSY,L50C IQT/SIL	
72		B4210325453	KIT COVER,L50A IQT(S)	
73		B4214000701A	SPRING COM	
74		E4205018001	MAIN ASSY,L50C EXP	
75		E4208420211	PCBA MAIN(A1*),L50C	
76		E4208520201	PCBA MAIN(I1*),L50C	
77		E4208720201	PCB ASSY,L50C	

L50C(S527B/L550B/L1510B) Schematic

CONTENTS

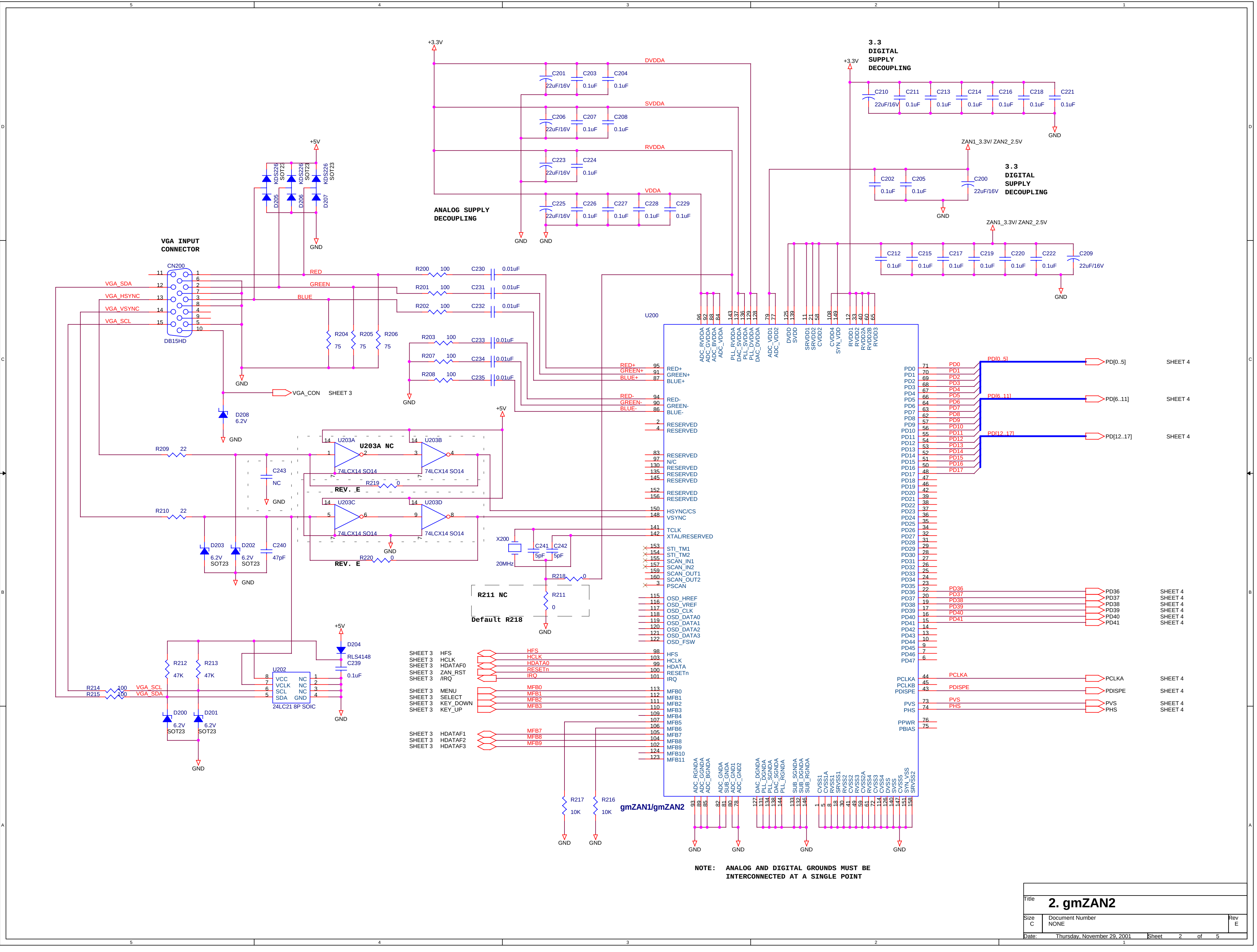
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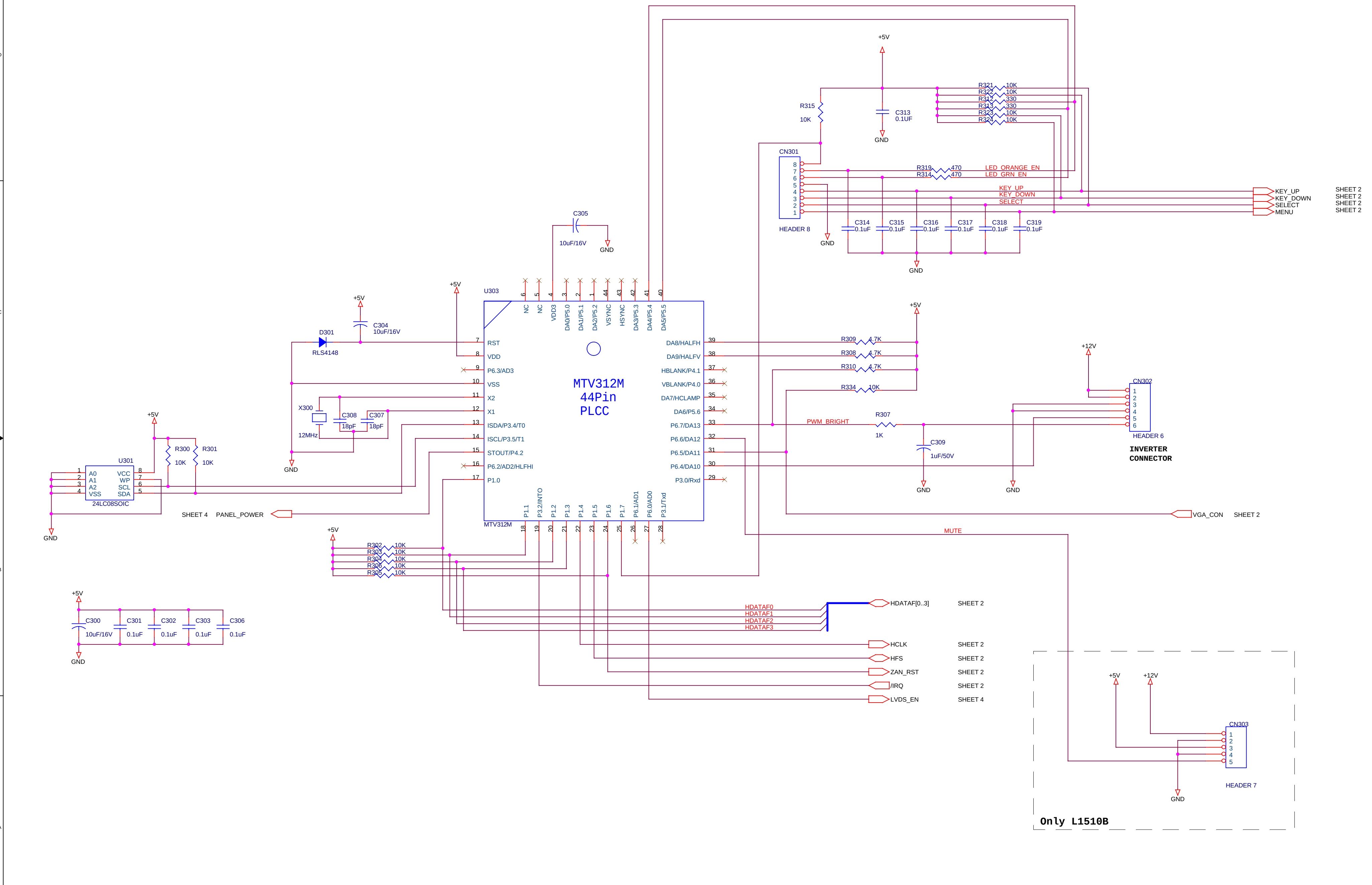
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01.09.20	W.S.IM	B	L50C VP
01.10.10	W.S.IM	C	L50C VP-A
01.10.23	E.J.NAM	D	L50C VP-B
01.11.29	E.J.NAM	E	S527 NOISE SOLUTION

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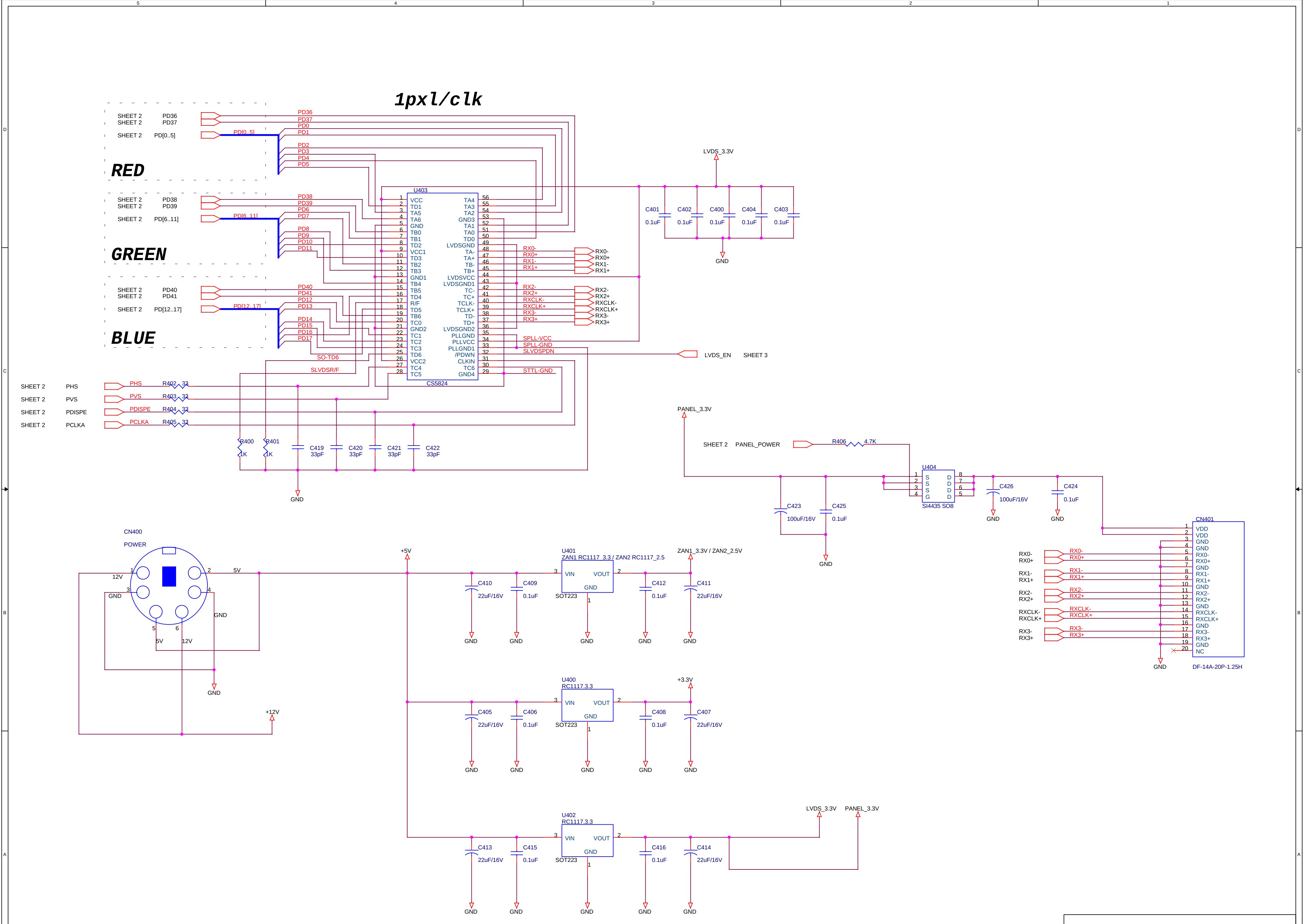
Size B | Document Number NONE | Rev E

Date: Thursday, November 29, 2001 | Sheet 1 of 5


3.3 DIGITAL SUPPLY DECOUPLING
ANALOG SUPPLY DECOUPLING
VGA INPUT CONNECTOR
CN200
DB15HD
VGA_SDA
VGA_HSYNC
VGA_VSYNC
VGA_SCL
RED
GREEN
BLUE
DVDDA
SVDDA
RVDDA
VDDA
VGA_CON SHEET 3
U203A NC
REV. E
R211 NC
Default R218
U200
gmZAN1/gmZAN2
U202
24LC21 8P SOIC
74LCX14 SO14
X200 20MHz
PD[0..5] SHEET 4
PD[6..11] SHEET 4
PD[12..17] SHEET 4
NOTE: ANALOG AND DIGITAL GROUNDS MUST BE INTERCONNECTED AT A SINGLE POINT
Title 2. gmZAN2
Size C
Document Number NONE
Rev E
Date: Thursday, November 29, 2001
Sheet 2 of 5



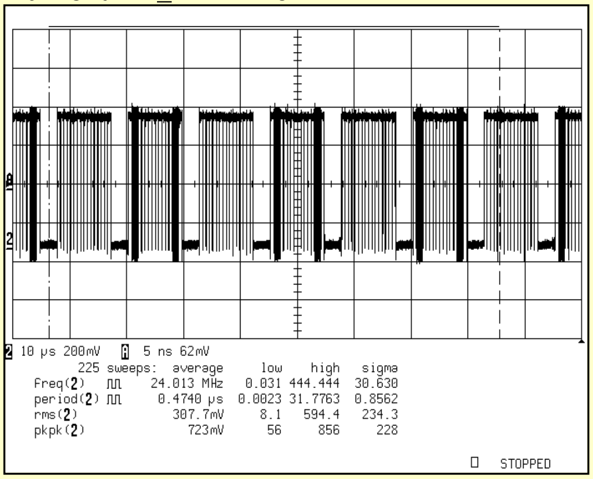
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Rev	E
Date:	Thursday, November 29, 2001
Sheet	3 of 5



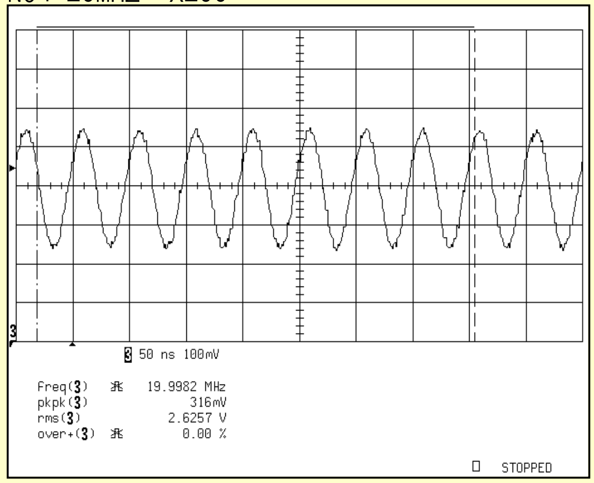
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4. LVDS & POWER			
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Date: Thursday, November 29, 2001	Sheet 4 of 5		

Wave Form

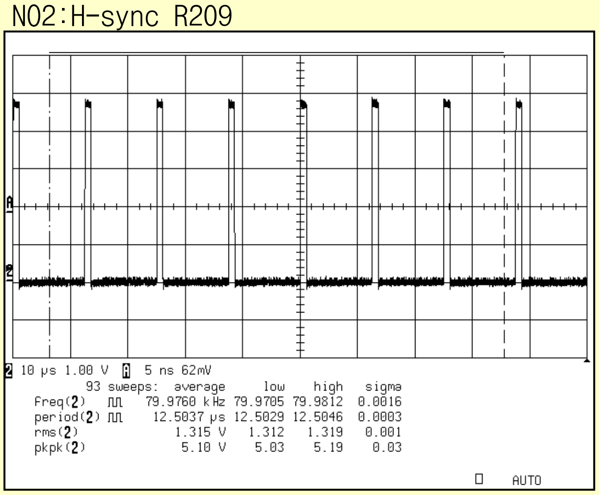
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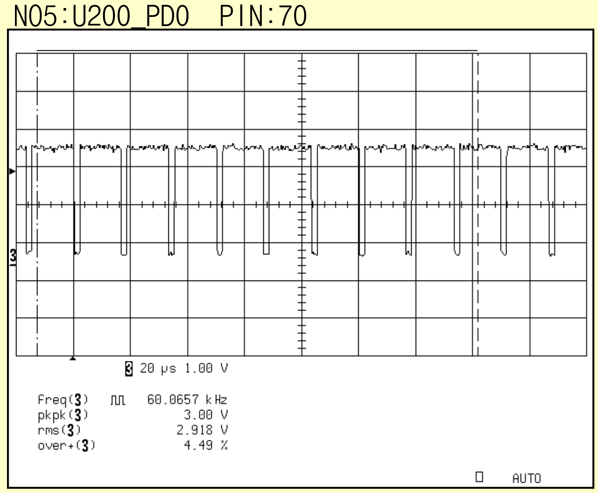
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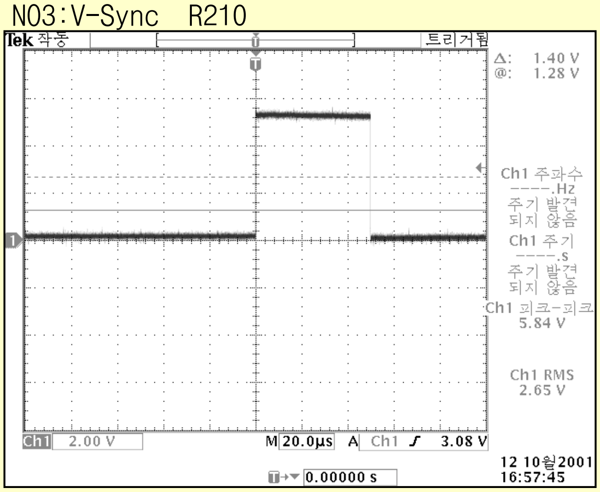
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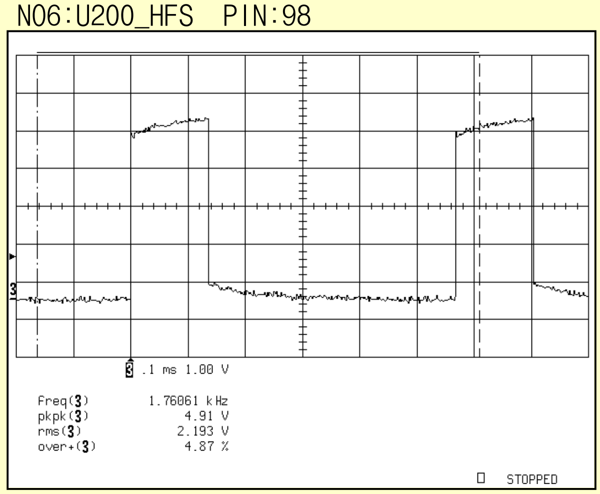
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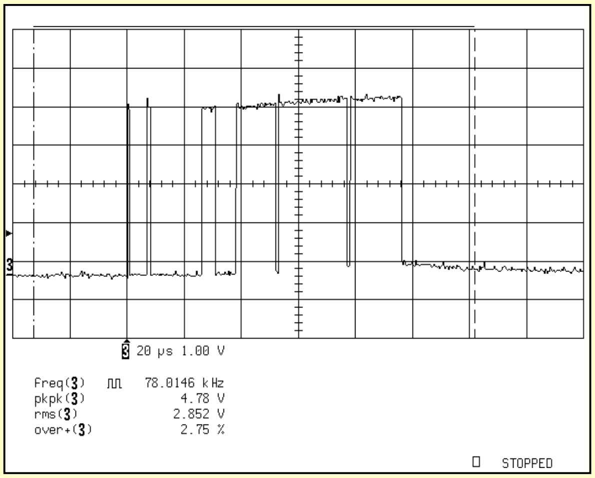
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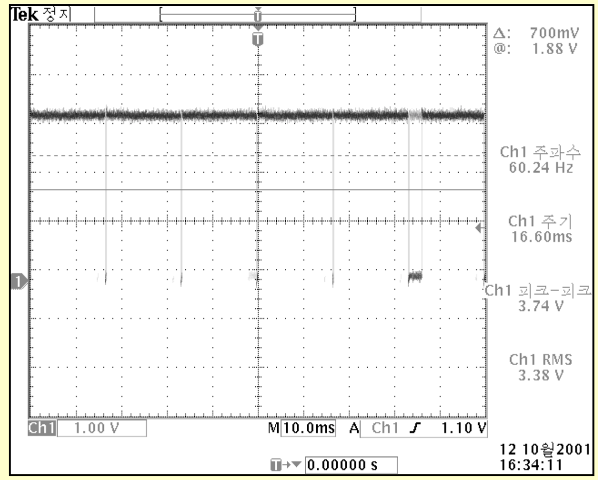
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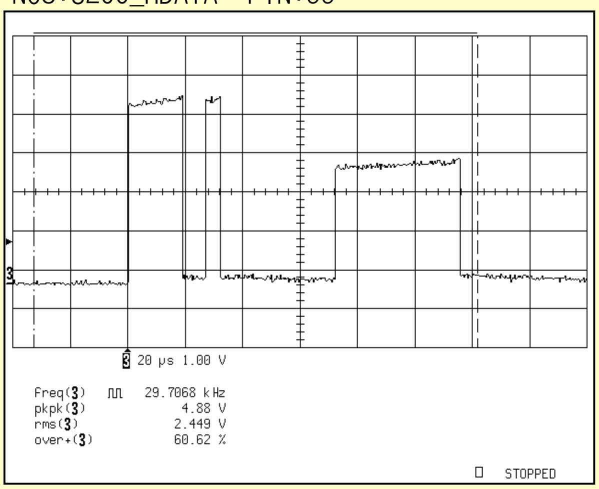
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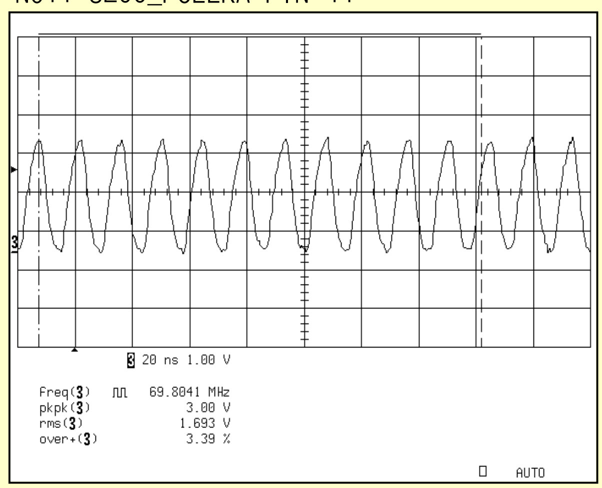
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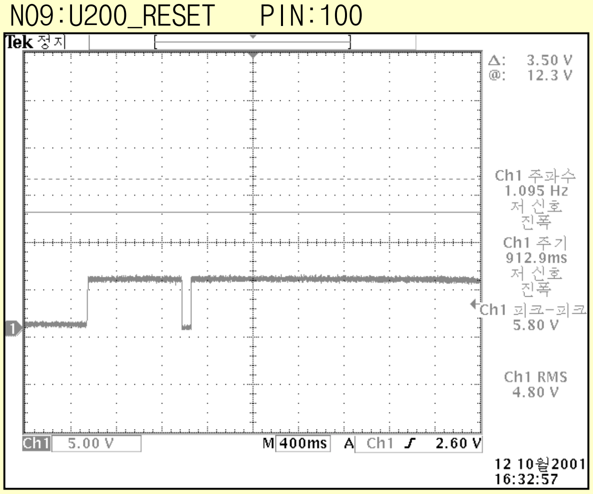
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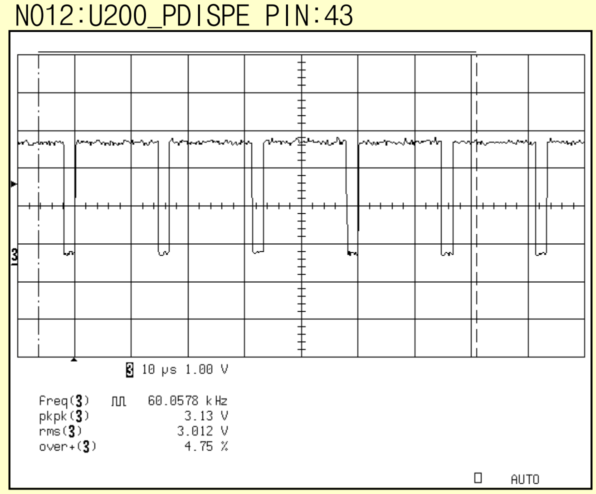
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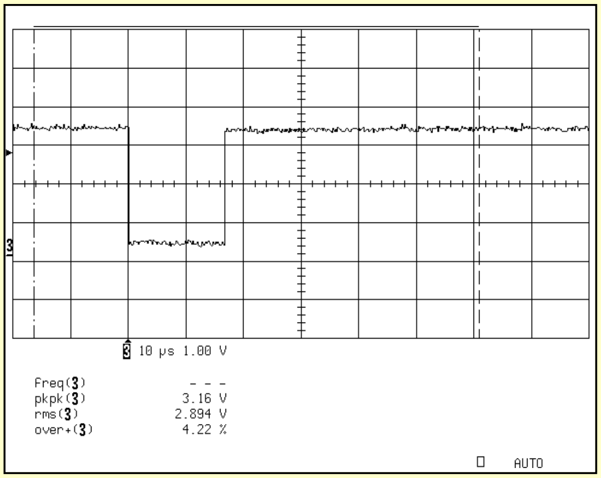
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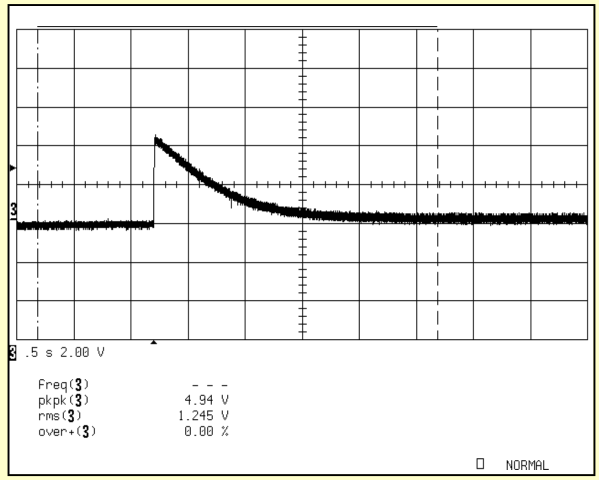
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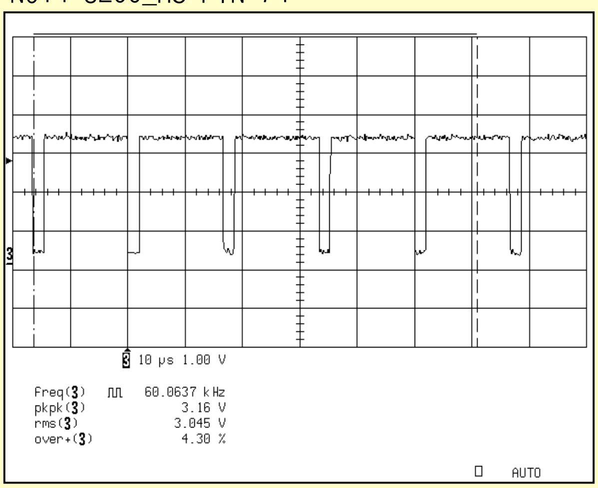
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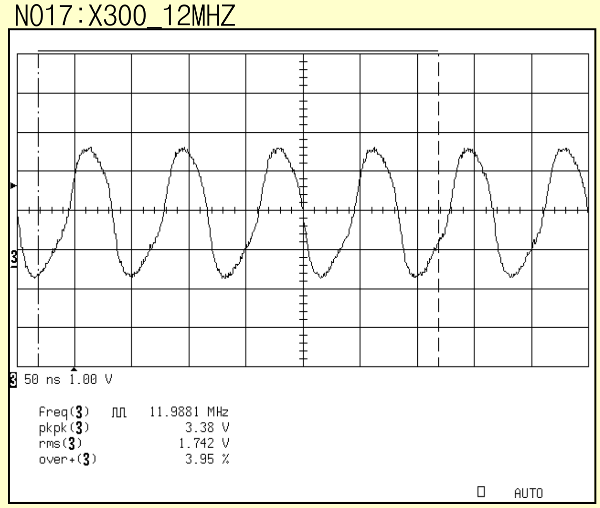
N016:U303_RST PIN:7



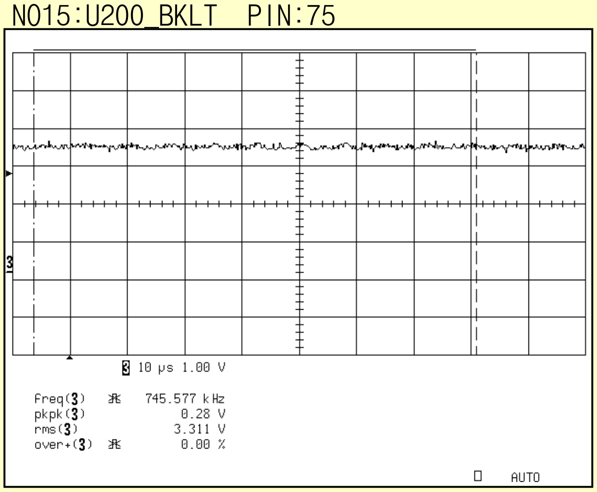
N014:U200_HS PIN:74



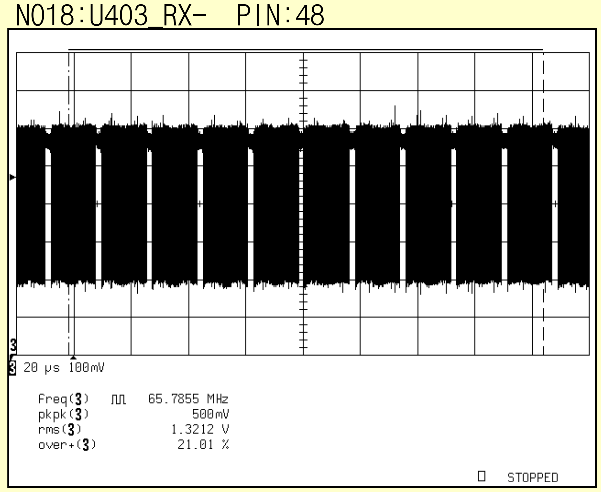
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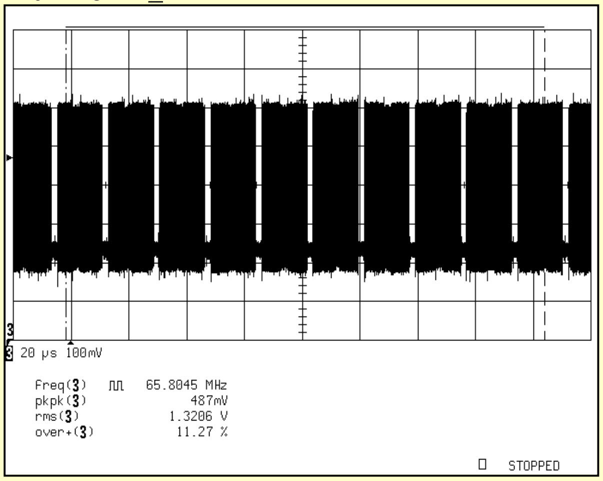
N015:U200_BKLT PIN:75



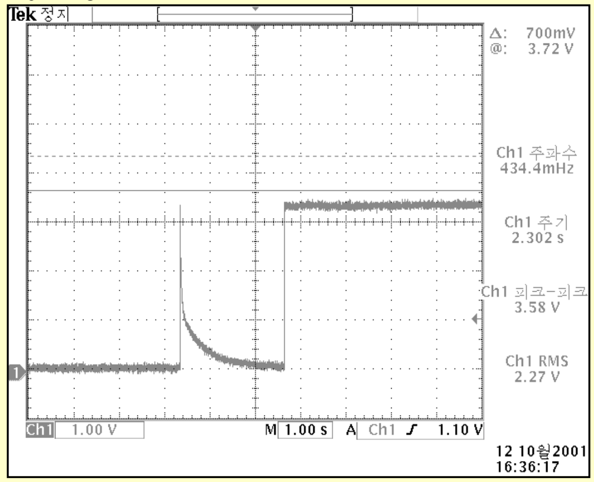
N018:U403_RX- PIN:48



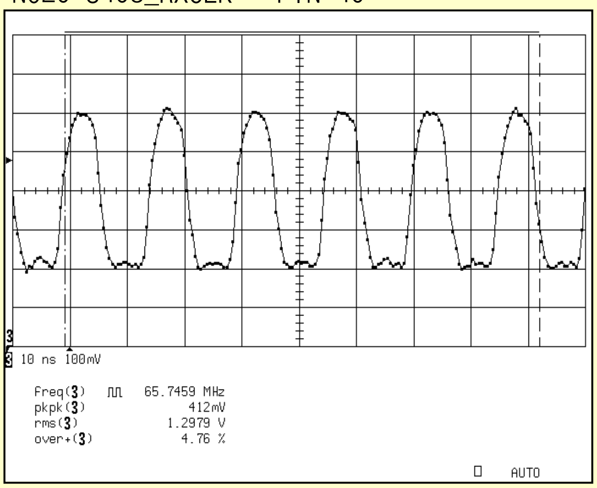
N019:U403_RX+ PIN:47



N022:U404 PIN:5



N020:U403_RXCLK- PIN:40



N021:U403_RXCLK+ PIN:39

